2006

REPORT

Alberta

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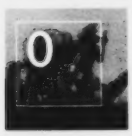

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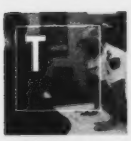

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Minister's Message

The Alberta Emergency Management Agency works with communities, industry and government to protect the people of Alberta, from the effects of emergency events. Fire prevention is a critical component of this invaluable work the agency does, in collaboration with the Alberta fire and emergency services, to enhance public fire safety.

The Fire Commissioner's Statistical Report for 2006 provides a provincial summary of fire losses. These losses can point to preventative measures that can be taken by the public, with the guidance of the fire and emergency services, in Alberta.

I commend the public education and awareness efforts at the community level that continue to keep the public we serve and our firefighters as safe as possible from the devastating effects of fire.

Together we can help make Alberta the safest place to live, work and raise a family!

Ray Danyluk
Minister, Alberta Municipal Affairs

Fire Commissioner's Message

A total of 5,120 fires that occurred in 2006 were reported to the Fire Commissioner at the Alberta Emergency Management Agency (AEMA). These fires resulted in 35 deaths, 235 injuries and $212 million in direct property losses. On average, during the 10-year period 1997 - 2006, there were 1.1 fire deaths per 100,000 population (range 0.7 - 1.5) in Alberta.

Most fire deaths and injuries happen in places where Albertans feel the safest – their homes. Although only 28 per cent of all fires occurred in homes, 69 per cent of all fire deaths, 49 per cent of all fire injuries and 45 per cent of all property losses from fires occurred in these property classes. Home fire safety continues to be a priority for the AEMA and the fire and emergency services in Alberta. In addition, seniors have emerged as the age group with the highest risk for fire death in Alberta, with their numbers growing every year. Seniors deserve our close attention.

Safety related decisions that affect all Albertans are based primarily on good information. I therefore encourage all reporting agencies to continue their valuable contribution to the collection and dissemination of fire statistics to keep Albertans safe.

Yours in safety,

Ernie Polsom
A/Fire Commissioner

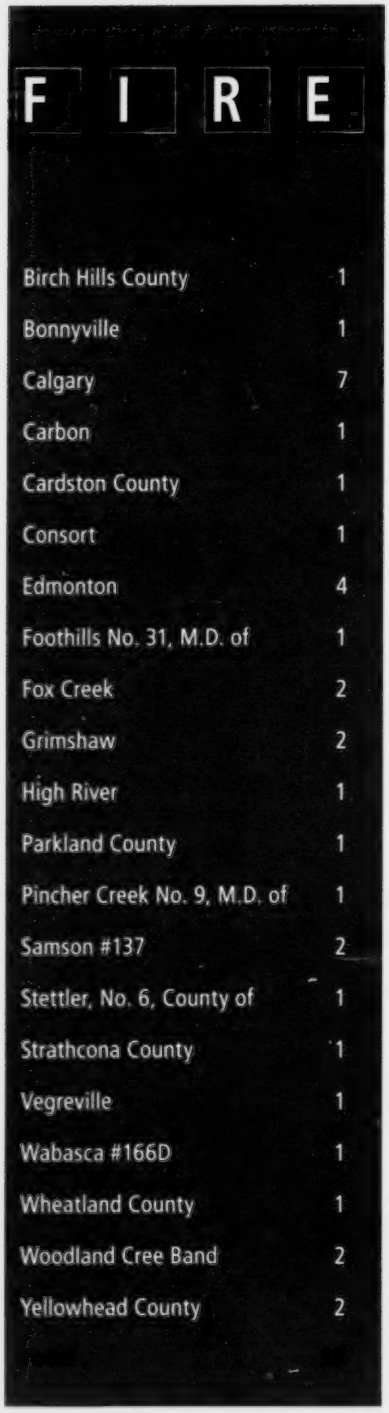
Fire Deaths and Death Rates 1997 - 2006
(Alberta and Canada)

Year	Population*	Fire Deaths	Alberta Fire Death Rate**	Canada Fire Death Rate***
1997	2,744,731	37	1.3	1.4
1998	2,781,290	20	0.7	1.1
1999	2,871,271	51	1.8	1.3
2000	2,932,963	27	0.9	1.1
2001	2,962,664	43	1.5	1.1
2002	3,050,889	31	1.0	1.0
2003	3,091,831	24	0.8	0.9
2004	3,124,923	27	0.9	1.0
2005	3,242,110	38	1.2	0.9
2006	3,303,762	35	1.1	—

* Source: Alberta Municipal Affairs.
** Fire Death Rate = number of fire deaths per 100,000 population.
*** Source: Council of Canadian Fire Marshals and Fire Commissioners.

F I R E

- Based on known probable causes of death, smoke inhalation accounted for 69%, burns for 14%, physical injuries for 9% and all other causes for 9% of all fire deaths in 2006.
- The annual fire death rates in Alberta (for 1997 - 2006) have fluctuated around an average of 1.1 deaths per 100,000 population, with a range of 0.7 to 1.5.



Causes of Fire Deaths

One and Two Family Dwellings, Apartments and Mobile Homes

Electrical short circuit in permanent wiring ignited plastic insulation	2
Wood stove installed too close to combustible ignited interior wall covering	1
Cigarette ignited bedding – victim with physical or mental disability	1
Cigarette ignited bedding – victim asleep	1
Stovetop ignited unknown material – victim suspected impaired by drugs, alcohol or medication	1
Ignition of natural gas, human failing	1
Ignition of gasoline with match or lighter – victim with physical or mental disability	1
Wood stove ignited gasoline – victim using flammable liquid to kindle fire	1
Candle ignited upholstered furniture	1
Extension cord ignited non-upholstered furniture – victim suspected impaired by drugs, alcohol or medication	1
Smoker's material ignited unclassified flammable gas	1
Stovetop ignited non-upholstered furniture – victim asleep	1
Arsonist ignited gasoline with unknown source of ignition	1
Stovetop ignited clothing	1
Electrical short circuit in appliance/equipment ignited plastics	2
Unknown	7

Mobile Home, Mobile Accommodation, Trailer

Smoker's material ignited upholstered furniture – victim suspected impaired by drugs, alcohol or medication	1
Candle ignited upholstered furniture – victim suspected impaired by drugs, alcohol or medication	1

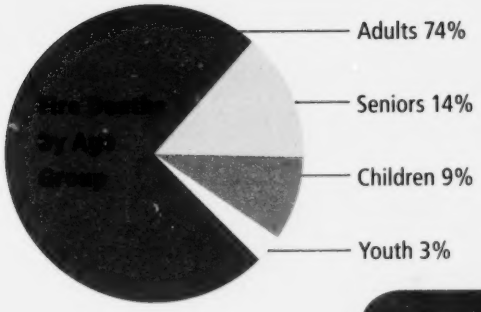
Automobiles (includes cars, trucks, vans, single body units)

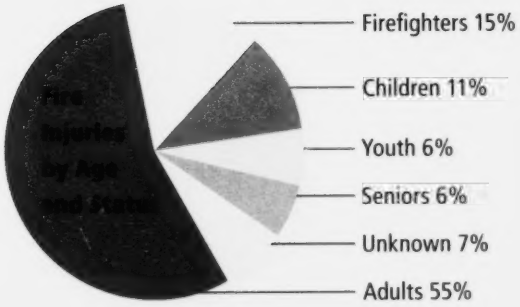
Motor vehicle crash ignited gasoline	2
Motor vehicle crash ignited unknown/undetermined material	4
Unknown	1

Miscellaneous Outbuildings

Welding equipment ignited propane	2

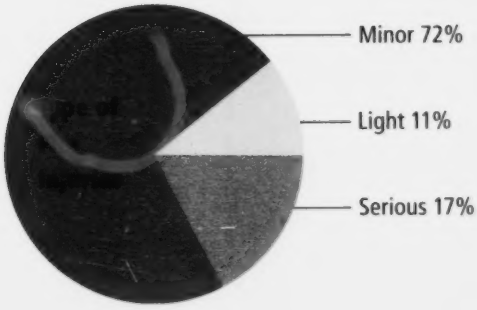
Total Fire Deaths	**35**





Seniors: 65 years of age and older
Adults: 18 - 64 years
Youth: 12 - 17 years
Children: 11 years and under
Note: No firefighters died in 2006 fires

Definitions of injuries are provided in the glossary, pg. 18.



Risk of Fire Deaths and Injuries

The risk of dying or being injured in a fire can be calculated as the fire death rate or fire injury rate — the number of casualties in an age group divided by the population of the age group. When fire deaths or injuries were calculated for the five-year period, 2002 - 06, as rates per 100,000 population, per annum, using the above formula, it was found that:

- Seniors 65 years and older had the highest risk of dying in fires (fire death rate of 1.4), followed by adults 18 to 34 years (1.08), adults 50 to 64 years (1.07), adults 35 to 49 years (0.8), children six to 11 (0.4), children five years and under (0.3) and youth 12 to 17 (0.3).
- Civilian adults 18 to 34 had the highest risk of being injured in fires (fire injury rate of 10.7) followed by adults 35 to 49 (8.0), adults 50 to 64 (6.6), youth 12 to 17 (5.7), seniors 65 years and older (4.8), children six to 11 (2.7) and children five years and under (2.0).

Population data source: Alberta Ministry of Health and Wellness.

FIRE

On average a fire related death occurred every 10 days in Alberta in 2006.

Of the 35 fatalities, 23% were impaired (alcohol/drugs/medication), 17% were asleep and 3% were too young to react at the time of the fire. The condition was unknown in 26% and actions were unknown in 46% of fatalities

There were 0.6 fire injuries reported per day, on average, in Alberta in 2006.

Of the 235 fire injuries, 60% were awake and normal at the time of fire; 14% were asleep and 7% were impaired by alcohol/drugs/medication.

Fire injuries were sustained when persons entered or remained inside a building for firefighting (35%), for saving personal property (9%), and for rescue purposes (2%).

Fifteen per cent of fire injuries occurred while persons were attempting to escape.

The adult male to female ratio for civilian fire injuries was 2.2:1 and for fire deaths was 1.8:1.

Fire Deaths and Injuries by Month

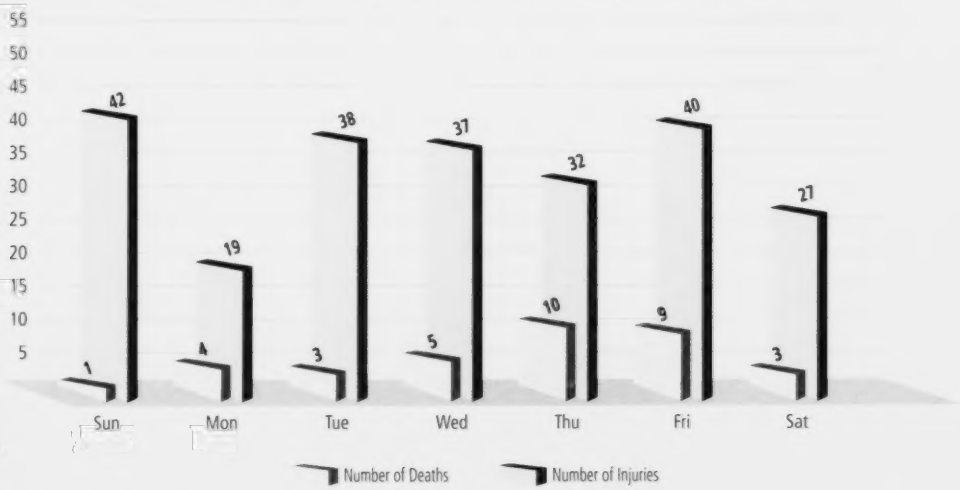
FIRE facts

Fire deaths and fire injuries were distributed by month as follows: January (5 deaths and 25 injuries); February (1 and 22); March (6 and 10); April (0 and 24); May (3 and 15); June (6 and 20); July (0 and 16); August (1 and 19); September (5 and 20); October (5 and 23); November (3 and 11); and December (0 and 30).

Fire deaths and fire injuries were distributed by day of week as follows: Sundays (1 death and 42 injuries); Mondays (4 and 19); Tuesdays (3 and 38); Wednesdays (5 and 37); Thursdays (10 and 32); Fridays (9 and 40); Saturdays (3 and 27).

Forty per cent of all fire deaths occurred between 10:30 p.m. and 6:29 a.m. followed by 2:30 to 10:29 p.m. (31%). The majority of fire injuries (42%) occurred between 6:30 a.m. and 2:29 p.m.

Fire Deaths and Injuries by Day of Week



Fire Deaths and Injuries by Time of Day

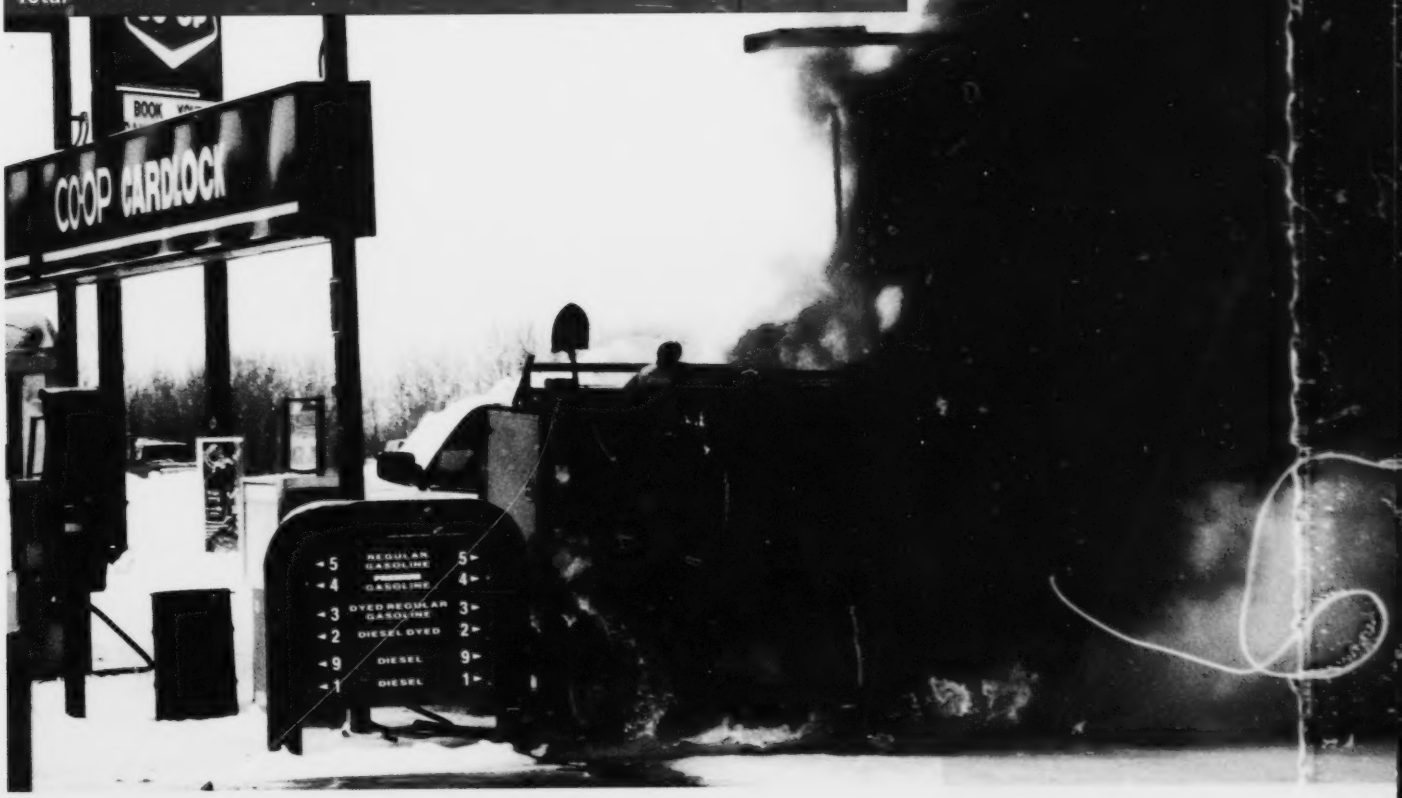
Time Periods	Type			
	Injuries		Fire Deaths	
	No.	%	No.	%
6:30 a.m. - 2:29 p.m.	98	41.7	9	25.7
2:30 p.m. - 10:29 p.m.	74	31.5	11	31.4
10:30 p.m. - 6:29 a.m.	61	26.0	14	40.0
Unknown	2	0.9	1	2.9
Total	**235**	**100**	**35**	**100**

Fire Deaths by Major Property Classification

	Property Classification	Fire Deaths No.	Fire Deaths %
Residential	One and Two Family Dwellings	13	37.1
	Mobile Home (one or two family units)	7	20.0
	Apartments	4	11.4
	Travel Trailer	1	2.9
	Motor Home (includes camperized van)	1	2.9
	Sub Total	**26**	**74.3**
Special Property – Transportation Equipment	Cars	3	8.6
	Tractor Trailer	2	5.7
	Vehicle and Non-Motorized Hauling Vehicle	1	2.9
	Trucks (includes light trucks/van/single body units)	1	2.9
	Sub Total	**7**	**20.0**
Miscellaneous Property	Shed (includes implement shed and workshop)	2	5.7
	Sub Total	**2**	**5.7**
Total		**35**	**100.0**

FIRE

- Seventy-four per cent of fire deaths occurred in residential properties.



Fire Injuries by Major Property Classification

Property Classification	No.	%
Residential		
One and Two Family Dwellings	68	28.9
Apartments	43	18.3
Hotel, Inn, Lodge (year round use)	8	3.4
Mobile Home (one or two family units)	5	2.1
Other Residential	4	1.7
Special Property-Transportation Equipment		
Brush/Grass and Light Ground Cover on Open Land/Field and Trash/Rubbish/Recyclable	10	4.3
Cars and Trucks (includes light trucks/van/single body units) and other vehicles	18	7.7
Outdoor Property-Unclassified	3	1.3
Other Special Property	5	2.1
Industrial Manufacturing Properties	32	13.6
Miscellaneous Property	16	6.8
Assembly	9	3.8
Storage Properties	7	3.0
Institutional	5	2.1
Mercantile	2	0.9
Total	**235**	**100.0**

F I R E

- Most fire injuries occurred in residential properties (54%), particularly in one and two family dwellings (29%) and apartments (18%).
- The majority of fire injuries inflicted were in fires related to cooking (19%), especially those involving cooking oil ignition (15%) followed by smoking (12%) and arson/vandalism (10%).

Major Causes of Fire Injuries

Causes	No.	%
Stovetop fire in pan/deep fryer with ignition of cooking oil	34	14.5
Cigarette/smoker's material igniting bedding or a variety of other combustibles	28	11.9
Arson/vandalism	23	9.8
Chimney or fireplace igniting mostly combustibles and structural components	15	6.4
Candles igniting a variety of combustibles	13	5.5
Stovetop fires (all other fires except ignition of cooking oil)	10	4.3
Internal combustion engine, mostly igniting flammable liquids	9	3.8
Cutting, welding, other torches	8	3.4
Children playing with matches, lighters, smoker's materials, etc.	8	3.4
Exposure from other fires	7	3.0
Other cooking appliances – ovens, barbecues, separate deep fat fryers, etc.	5	2.1
Electrical wiring, switches, panels, extension cords, power bars igniting building components	4	1.7
Other	44	18.7
Unknown	27	11.5
Total	**235**	**100.0**

Fire Losses in Alberta 1997 - 2006

Year	Fires	Deaths	Injuries	$ Losses	Adjusted $ Losses
1997	6,670	37	448	141,964,084	161,139,709
1998	6,579	20	429	139,492,065	156,381,238
1999	6,379	51	385	146,414,201	160,190,591
2000	6,457	27	341	158,724,441	167,962,371
2001	7,021	43	393	229,231,932	237,054,738
2002	5,993	31	307	272,576,913	272,576,913
2003	5,647	24	323	348,481,771	333,794,799
2004	5,137	27	291	202,649,768	191,359,554
2005	5,194	38	247	450,407,267	416,657,971
2006	5,120	35	235	212,203,811	188,961,541
Total	60,197	333	3,399	2,302,146,253	2,286,079,429

Adjusted losses were calculated from actual losses using the Annual Consumer Price Index (C.P.I.) figures for Alberta obtained from Statistics Canada (1992 CPI = 100).

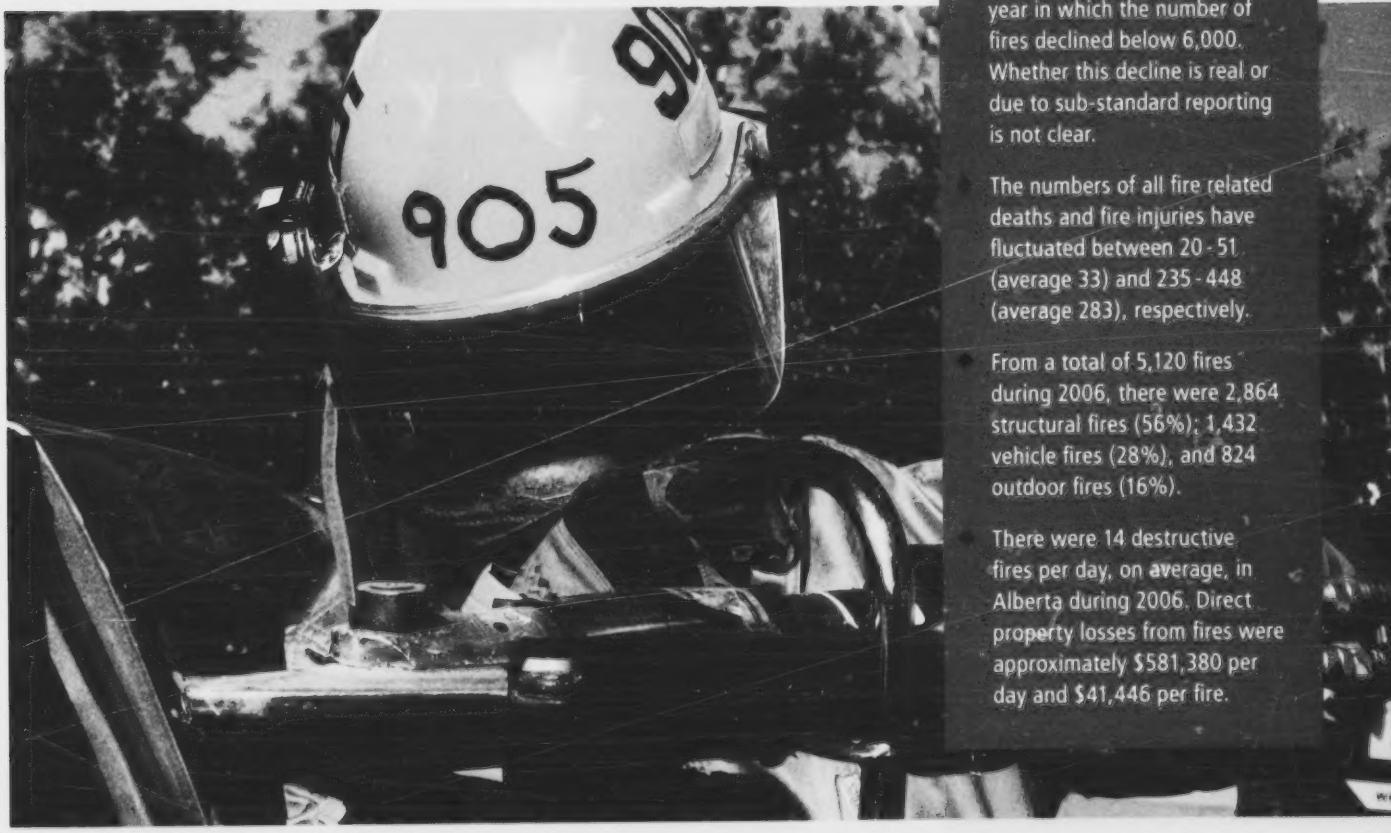
FIRE

During the 10-year period, 1997 - 2006, the annual number of fires reported to the Fire Commissioner averaged 6,020. 2002 marks the first year in which the number of fires declined below 6,000. Whether this decline is real or due to sub-standard reporting is not clear.

The numbers of all fire related deaths and fire injuries have fluctuated between 20 - 51 (average 33) and 235 - 448 (average 283), respectively.

From a total of 5,120 fires during 2006, there were 2,864 structural fires (56%); 1,432 vehicle fires (28%), and 824 outdoor fires (16%).

There were 14 destructive fires per day, on average, in Alberta during 2006. Direct property losses from fires were approximately $581,380 per day and $41,446 per fire.



Fire Rates and Per Capita Losses 1997 - 2006

Year	Population	Fires	Fire Rate*	Loss Estimate	$ Loss/Capita
1997	2,744,731	6,670	2.4	141,964,084	51.7
1998	2,781,290	6,579	2.4	139,492,065	50.2
1999	2,871,271	6,379	2.2	146,414,201	51.0
2000	2,932,963	6,457	2.2	158,724,441	54.1
2001	2,962,664	7,021	2.4	229,231,932	77.4
2002	3,050,889	5,993	2.0	272,576,913	89.3
2003	3,091,831	5,647	1.8	348,481,771	112.7
2004	3,124,923	5,137	1.6	202,649,768	64.8
2005	3,242,110	5,194	1.6	450,407,267	138.9
2006	3,303,762	5,120	1.5	212,203,811	64.2

*Fire Rate = Number of fires per 1,000 population.

Fire Losses Related to Economic Indices 1997 - 2006

Year	Fire Losses ($)	Gross Domestic Product ($ million)*	% of GDP	Personal Income ($ million)**	% of Personal Income
1997	141,964,084	107,048	0.13	72,952	0.19
1998	139,492,065	107,439	0.13	78,279	0.18
1999	146,414,201	117,080	0.13	81,151	0.18
2000	158,724,441	144,789	0.11	89,094	0.18
2001	229,231,932	151,274	0.15	98,131	0.23
2002	272,576,913	150,594	0.18	101,072	0.27
2003	348,481,771	170,113	0.20	105,664	0.33
2004	202,649,768	189,521	0.11	114,986	0.18
2005	450,407,267	222,159	0.20	127,285	0.35
2006	212,203,811	240,025	0.09	142,505	0.15

*Source: Statistics Canada. Table 384-0013 – Selected economic indicators, provincial economic accounts, annual (dollars unless otherwise noted), CANSIM (database).

F I R E

The province has experienced a fire rate of 2.0 during the 10-year period from 1997 - 2006.

As a percentage of gross domestic product, fire losses have decreased by 55% between 2005 and 2006. As a percentage of personal income, fire losses have decreased by 57% over the same period.

On average, 427 fires were reported to the Fire Commissioner each month during 2006. This average was exceeded in April (+35%) followed by May (+23%). On average, direct property losses averaged $17.7 million per month. This average was exceeded in February (+43%) and in May (+34%).

The number of fires was highest on Sundays and Fridays (15%), while dollar losses were highest on Mondays (15%).

Where the time of fire was known, the number of fires was highest between 4 and 8 p.m. (22%) and 12 noon and 4 p.m. (20%). Dollar losses were highest between midnight and 4 a.m. (25%).

F I R E

Fire Losses by Major Property Classification

Major Property Classification	Fires	%	$ Losses	% of $ Losses
Special Property – Transportation Equipment	2,290	45	33,121,165	15.6
Residential	1,595	31	98,034,846	46.2
Miscellaneous Property	456	9	18,345,391	8.6
Storage Properties	344	7	19,254,602	9.1
Assembly	159	3	11,312,548	5.3
Mercantile	106	2	10,655,717	5.0
Industrial Manufacturing Properties	91	2	14,013,461	6.6
Business and Personal Service	43	1	6,841,009	3.2
Institutional	36	1	625,072	0.3
Total	5,120	100	212,203,811	100.0

Fire Losses by Major Sources of Ignition

Major Sources of Ignition	Fires	%	$ Losses	% of $ Losses
Smoker's Material and 'Open' Flames	1,168	23	32,076,777	15.1
Exposure	707	14	15,152,819	7.1
Miscellaneous	546	11	23,371,974	11.0
Electrical Distribution Equipment	544	11	22,495,144	10.6
Cooking Equipment	393	8	10,865,015	5.1
Heating Equipment	256	5	18,813,694	8.9
Appliances and Equipment	130	3	7,219,367	3.4
Other Electrical Equipment	101	2	6,550,605	3.1
No Igniting Object	35	1	892,996	0.4
Not Determined	1,240	24	74,765,420	35.2
Total	5,120	100	212,203,811	100.0

The largest number of fires occurred in ground transport vehicles (24%), one and two family dwellings (20%), followed by outdoor properties (13%), apartments (7%), and vehicle storage (5%).

Property classes with the highest dollar losses were one and two family dwellings ($74M or 35%), apartments ($17K or 8%), vehicle storage (15K or 7%), farm facilities ($9M or 4%) and special vehicles ($9M or 4%).

The most frequent areas of fire origin were in vehicle (30%), outside (23%), function (16%) and structural areas (12%).

The most common sources of ignition in Alberta fires in 2006 were, exposure fires from detached structures, outdoors, vehicles, etc. (14%); electrical distribution equipment, wiring, lamps (12%); cooking equipment, primarily stoves and other cooking appliances (7%); internal combustion engine (5%); smoker's materials such as cigarettes (5%); and heating equipment such as central furnaces, space heaters, fireplaces, etc. (4%). The highest property loss was attributed to fires where sources of ignition were unknown ($75M or 36%).

Where known, the most common fuel or energy associated with the source of ignition were:

- electricity (21%)
- exposure fires (14%)
- smoker's material (6%)
- gasoline (5%)
- natural gas or other fuel gas (5%).

FIRE

Arson and vandalism accounted for 24% of all fires in Alberta in 2006. This means approximately one out of four fires was deliberately set.

The other common acts or omissions were mechanical, electrical failure, malfunction (24%); ignorance of hazard (6%); misuse of smoker's material (5%); inadequate control of 'open' fire (3%); and overheated cooking oil, grease, wax (2%). Acts or omissions were not determined in 14% of the fires and these fires accounted for $50 million in property losses.

Materials most commonly ignited first were flammable and combustible liquids (14%), building components (12%), wood, paper products (9%), agricultural products (8%), furniture or furnishings (5%), and chemicals (5%). Materials first ignited were not determined in 26% of the fires and these fires accounted for $74M in property losses.

Fire Losses by Major Acts or Omissions

Major Acts or Omissions	Fires	%	$ Losses	% of $ Losses
Arson or 'Set' Fires	1,248	24	36,153,166	17.0
Mechanical, Electrical Failure, Malfunction	1,215	24	55,042,444	25.9
Human Failing	598	12	21,979,710	10.4
Misuse of Source of Ignition	524	10	15,477,926	7.3
Misuse of Material Ignited	359	7	14,723,188	6.9
Miscellaneous	136	3	3,131,873	1.5
Construction, Design, Installation Deficiency	94	2	7,733,367	3.6
Vehicle Accident	92	2	1,441,824	0.7
Act or Omission Not Applicable	67	1	1,106,803	0.5
Misuse of Equipment	62	1	5,149,949	2.4
Not Determined	725	14	50,263,561	23.7
Total	**5,120**	**100**	**212,203,811**	**100.0**

Fire Losses by Major Materials First Ignited

Major Materials First Ignited	Fires	%	$ Losses	% of $ Losses
Miscellaneous	833	16	19,467,843	9.2
Flammable and Combustible Liquids	693	14	20,905,595	9.9
Building Components	600	12	47,620,914	22.4
Wood, Paper Products	479	9	11,401,080	5.4
Agricultural Products	394	8	8,338,472	3.9
Chemicals	269	5	5,125,549	2.4
Furniture, Furnishings	256	5	16,039,142	7.6
Clothing, Textiles	181	4	3,519,522	1.7
Flammable Gases	84	2	5,366,155	2.5
Not Determined	1,331	26	74,419,539	35.1
Total	**5,120**	**100**	**212,203,811**	**100.0**

Initial Detection of Fires

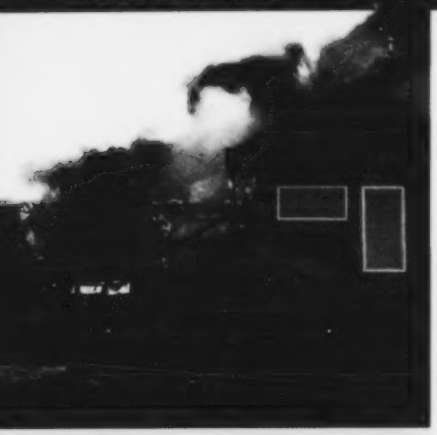
Method of Initial Detection	Fires	%
Visual Sighting/Personal Detection	4,779	93
Smoke Alarm: Single Station	138	3
Smoke Detector: Linked to Alarm System	72	1
Initial Detection-Unclassified	34	1
No Initial Detection/Burnt Out	28	1
Automatic Sprinkler System	16	0
Heat Detector: Linked to Alarm System	7	0
Automatic System other than Sprinkler	3	0
Heat Alarm: Single Station	1	0
Initial Detection-Unknown	42	1
Total	5,120	100

Fires by Method of Fire Control and Extinguishment

Method of Fire Control and Extinguishment	Fires	%
Fire Department – Water	3,130	61.1
Hand Fire Extinguisher	485	9.5
'Makeshift' Fire Fighting Aid	430	8.4
Burned Out	346	6.8
Fire Department – other than Water	171	3.3
Standpipe System	132	2.6
Miscellaneous-Unclassified	70	1.4
Sprinkler System	24	0.5
Fixed System other than Sprinklers	12	0.2
Miscellaneous-Unknown	320	6.3
Total	5,120	100.0

F I R E

- Visual sighting or other means of personal detection (93%) was the primary means of initial detection of fires in 2006, while smoke alarms/detector devices accounted for 4%.
- Where the method of fire control and extinguishment is known, fire departments extinguished 64% of all reported fires. The other common methods of fire extinguishment were hand fire extinguishers (10%) and 'makeshift' fire fighting aids (8%).



Home Fires by Type of Home

Type of Home	Fires	% of Fires	Deaths	% of Deaths	Injuries	% of Injuries	$ Losses	% of $ Losses
One and Two Family Dwellings	1,022	70	13	54	68	59	73,824,998	78
Apartments, Tenements, Flats	351	24	4	17	43	37	17,238,819	18
Mobile Homes	85	6	7	29	5	4	4,069,866	4
Total	1,458	100	24	100	116	100	95,133,683	100

Home Fires by Major Areas of Fire Origin

Area of Origin	Fires	% of Fires	Deaths	% of Deaths	Injuries	% of Injuries	$ Losses	% of $ Losses
Kitchen/Cooking Area	330	23	5	21	42	36	9,665,124	10
Lounge/Living Room	145	10	4	17	20	17	10,341,175	11
Sleeping (Under Five Occupants)	145	10	5	21	20	17	10,029,492	11
Exterior Wall	131	9	0	0	1	1	5,729,627	6
Court/Patio/Terrace	79	5	0	0	0	0	5,550,812	6
Area of Origin-Unknown	67	5	4	17	2	2	8,663,737	9
Laundry Area	51	3	2	8	3	3	1,953,369	2
Heating Equipment Room	50	3	0	0	4	3	4,864,321	5
Exterior Balcony/Porch	46	3	0	0	2	2	3,163,877	3
Vehicle (Garage)	44	3	0	0	3	3	4,750,352	5
All Other Areas	370	25	4	17	19	16	30,421,797	32
Total	1,458	100	24	100	116	100	95,133,683	100

F I R E

Twenty-eight per cent of all fires in Alberta occurred in the home. Home fires accounted for 69% of all fire deaths (24 out of 35), 49% of all fire injuries (116 out of 235) and 45% of all property losses ($92M out of $212M) from fires.

Most home fires started in kitchens (23%), living rooms (10%), bedrooms (10%), and exterior walls (9%).

Major Known Causes of Home Fires

Fire Causes	Fires	% of Fires	Deaths	Injuries	$ Losses
Cooking	312	22	3	42	7,168,582
Arson/Set Fire	230	16	1	14	13,311,046
Smoking	179	12	3	18	10,159,834
Heating Equipment Related *	138	9	2	5	14,716,749
Electrical Distribution Equipment and Light/Fluorescent Bulb	137	9	3	6	10,742,588
Exposure Fire**	105	7	0	1	4,884,898
Candle (Accident)	63	4	1	10	4,837,533
Appliance/Equipment Related	35	2	2	2	2,590,986
Clothes Dryer	25	2	0	2	523,452
Child Fire-play	23	2	0	6	1,684,559
Flammable/Combustible Liquid Ignition	14	1	1	1	691,517
Other Causes/Unknown	197	13	8	9	23,821,939
Total	**1,458**	**100**	**24**	**116**	**95,133,683**

* Heating equipment includes furnaces, water heaters, fireplaces, wood stoves, space heaters and associated chimneys/vents.

** An exposure fire is a fire that spreads from one property to an adjacent property.

F I R E

Most home fires (23%) and most home fire injuries (36%) were in the kitchen/cooking area.

About 30% of all cooking related fires involved the ignition of cooking oil. These fires accounted for 43% of all cooking related fire injuries.

The highest percentage of deaths occurred where fires started in the kitchen (21%), sleeping areas (21%) and lounge/living room (17%).

Sleeping areas and lounge/living room areas accounted for 10% each of home fires.

Most kitchen fires started on stove/top burners (77%), and these caused 60% of deaths and 71% of injuries in kitchen fires.

Major sources of ignition in living rooms were smoker's material (22%), electrical wiring/equipment/lamps/bulbs (14%), and candles (13%).

Major sources of ignition in bedrooms were smoker's material – mostly cigarettes (22%), candles (13%) followed by electrical wiring/equipment/lamps/bulbs (12%).

Exposure from detached structure fire (53%) and exposure from 'open' rubbish/camp fire (11%) were the major sources of ignition where fires started on the exterior wall. Arson or 'set' fires accounted for approximately 10% of exterior wall fires.

In court, patio and terrace area fires the main source of ignition was smoker's material (43%).

Forty-five per cent of laundry area fires started in clothes dryers.

In the exterior balcony/porch area, most fires were caused by smoker's material (43%).

When fire originated in heating equipment rooms the main source of ignition was furnaces (34%).

Fires in exterior balcony/porch areas were primarily from smoker's materials (37%).

Home Fires by Smoke Alarm Operation

Smoke Alarm Installation

Status	Fires	% of Fires	Deaths*	% of Deaths	Injuries	% of Injuries	$ Losses	% of $ Losses
Installed	889	61	15	63	84	72	63,408,423	67
Not Installed	569	39	9	38	32	28	31,725,260	33
Total	1,458	100	24	100	116	100	95,133,683	100

*Please refer to the research article titled *"Making sense of smoke alarm data and home fire deaths,"* in the August 2004 issue of *Alberta FIREnews* (pages 16 - 19), for a detailed statistical analysis of home fire deaths in relation to smoke alarms.

Alberta FIREnews is available at www.aema.alberta.ca/ps_alberta_fire_news.cfm

Activation of Smoke Alarms

Status	Fires	% of Fires	Deaths	% of Deaths	Injuries	% of Injuries	$ Losses	% of $ Losses
Activated	330	37	4	27	40	48	21,260,435	34
Not Activated	283	32	1	7	21	25	12,468,919	20
Activation – Unknown	276	31	10	67	23	27	29,679,069	47
Total	889	100	15	100	84	100	63,408,423	100

Alarm Assistance to Occupants

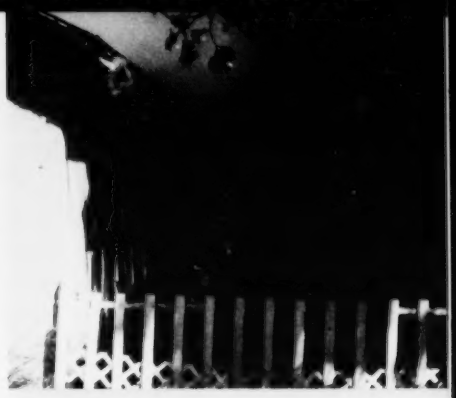
Status	Fires	% of Fires	Deaths	% of Deaths	Injuries	% of Injuries	$ Losses	% of $ Losses
Alarm Assisted Occupants to Evacuate	228	69	1	25	30	75	15,202,531	72
Not Applicable/No Occupants	47	14	0	0	1	3	3,770,988	18
Alarm Did Not Assist Occupants to Evacuate	39	12	1	25	5	13	481,813	2
Occupant Evacuation Unknown	16	5	2	50	4	10	1,805,103	8
Total	330	100	4	100	40	100	21,260,435	100

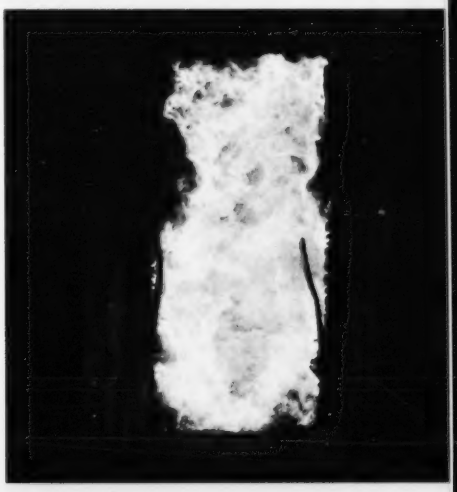
FIRE FACT

In 2006, 39% of homes where fire occurred did not have smoke alarms installed. Lack of power source was the major reason the alarms failed to activate (27%).

Reasons – Alarms Did Not Assist

Status	Fires	% of Fires	Deaths	% of Deaths	Injuries	% of Injuries	$ Losses	% of $ Losses
Unnecessary to Evacuate	27	69	0	0	2	40	287,664	60
Under the Influence of Drugs/Alcohol	6	15	0	0	1	20	22,836	5
Physical/Mental Challenge	3	8	1	100	2	40	66,101	14
Alarm Inaudible	2	5	0	0	0	0	104,612	22
Unable to Evacuate-Age-related	1	3	0	0	0	0	600	0
Total	39	100	1	100	5	100	481,813	100





Reasons – Alarms Not Activated

Status	Fires	% of Fires	Deaths	% of Deaths	Injuries	% of Injuries	$ Losses	% of $ Losses
Not Enough Smoke*	189	67	0	0	7	33	8,446,517	68
No Battery	33	12	0	0	6	29	1,317,595	11
Dead Battery	29	10	1	100	1	5	1,385,477	11
AC Not Connected/ Disabled	15	5	0	0	4	19	580,567	5
Mechanical Failure	10	4	0	0	3	14	668,868	5
Unsuitable Location*	7	2	0	0	0	0	69,895	1
Total	283	100	1	100	21	100	12,468,919	100

*Since most of these fires originated in outside areas or structural areas of homes, an adequate amount of smoke did not reach inside the homes to trigger the smoke alarms.

FIRE

- Of the 24 home fire fatalities, nine (or 38%) occurred in homes with no smoke alarms installed and one (4%) occurred in a home where the smoke alarm did not activate. Of the remaining fatalities, the smoke alarms activated in four and activation is unknown in 10.
- Where four fatalities occurred in homes with smoke alarm activation, two were overcome by smoke while attempting to rescue or fight the fire. In the other two fatalities, no action was taken or the action was unknown.

For a more detailed description of the following variables, please refer to the *Alberta Fire Statistics Reporting Manual* available on the Alberta Emergency Management Agency's website at www.aema.alberta.ca/ps_fire_reporting.cfm

Act or Omission

The human element by which someone has done something (an act) or failed to do something (an omission). The act or omission indicates whether the fire was deliberate, neglectful or accidental.

Incendiary or Set Fires
Includes arson, suspected incendiarism, riot, mischief or vandalism.

Misuse of Source of Ignition
Includes disposal of smoker's material, thawing, inadequate control of an open fire, children playing with source of ignition, welding or cutting too close to combustible material or torch too close to combustible material.

Misuse of Material Ignited
Includes fuel spilled accidentally, improper fuelling technique, cleaning or washing parts, improper container, overheated cooking oil, combustible placed too close to heat, and improper storage.

Mechanical and Electrical Failure or Malfunction
Includes part failure, automatic or manual control failure, electrical short circuit and part worn out.

Construction, Design or Installation Deficiency
Includes construction or design deficiency, installation too close to a combustible, other installation deficiency or over fusing.

Misuse of Equipment
Overfuelling, includes any misuse of equipment or tools.

Human Failing
Includes person asleep, temporary loss of judgement, physical disability, panic, influence of alcohol or drugs and ignorance of hazard.

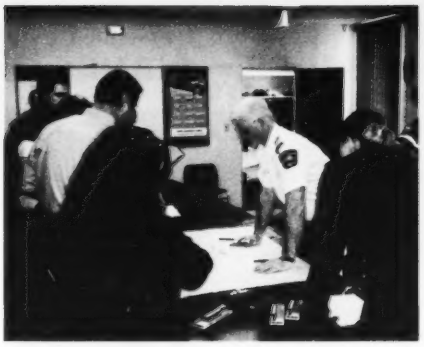
Area of Origin

The area of a building or vehicle where the fire started.

Means of Egress
The area allowing an individual transit or a way of going out. Includes hallway, stairway, escalator, lobby and elevator.

Assembly, Sales Area
Areas where groups of people gather. Includes theatre, arena, lounge, living room, sales or showroom, library, museum and sports facility.

Function Area
The area where a mode of action or activity is undertaken. Includes sleeping area, dining area, bar, washroom, office, laboratory, printing and photographic reproduction area, kitchen, laundry room, operating room, performance area and manufacturing area.



Storage Area
The area inside a building where items are stored. Includes product storage area, closet, equipment area, records storage area, shipping and receiving area, trash and rubbish area, vehicle garage and agricultural product storage area.

Service Facilities
Conveyance items such as dumbwaiters, service shafts, laundry and garbage chutes, heating and cooking ducts and chimneys or gas vents.

Structural Area
Includes crawl space, balcony, ceiling and floor assembly, wall assembly, exterior wall or exterior roof and awning or canopy.

Vehicle Area
Includes engine area, fuel area, control area, passenger area and cargo area.

Outside Area
Includes open area such as lawn, field or park, court, patio, parking area, outdoor storage area and trash or rubbish area.

Death

A person killed accidentally as a direct result of a fire or a person who dies from a fire injury within one year following the date on which the injury was sustained.

Fire Death
Refers to a person who died as a direct result of a fire, either by smoke inhalation, burns or physical injury. Fire deaths also include persons killed as a result of a motor vehicle collision, an arson fire, an explosion, suicide, etc. where the Medical Examiner's Office has concluded the cause of death was due to fire.

Fuel or Energy

The fuel associated with the source of ignition. Includes coal, wood, fuel oil, gasoline, natural gas or other fuel gases, smoker's material, electricity, lightning or exposures.

Injuries

A person accidentally injured as a direct result of a fire (a member of the fire department accidentally injured while in the process of fighting a fire or injured as a result of an accident while en route to or returning from the scene of an actual fire is considered a fire action injury).

Minor Injury
Injury that does not require hospitalization over a 24-hour period or absence from work of not more than one full day.

Light Injury
Injury that required admission to a hospital for over 24 hours up to 48 hours and/or absence from work for a period of two to fifteen days.

Serious Injury
Injury that required admission to a hospital for a period of more than 48 hours and/or an absence from work for a period exceeding fifteen days.

Material First Ignited

The actual material that ignites and creates the fire condition.

Structural Components, Finish Materials
Includes roof covering, wall covering, floor covering, structural component, ceiling covering and insulation.

Furniture, Furnishings
Includes furniture, ironing board, mattress, bedding, drapery and broom, mop or brush.

Clothing, Textiles
Includes clothing, fabric, fur and tarpaulin.

Wood, Paper Products
Includes wood, wood shavings, paper, cardboard and paper stock.

Flammable Liquids
Includes gasoline, fuel oil, flammable liquids, paint, varnish, tar, asphalt, polish and wax.

Flammable Gases
Includes natural gas, propane, anaesthetic gas, acetylene and hydrogen.

Chemicals
Includes starch, flour, cellulose nitrate, plastic, oxidizing material, magnesium and alloys, titanium, natural or synthetic rubber and ammonium nitrate.

Agricultural, Forestry Products
Includes fibres, grains, hay, trees, felled timber, grass, fertilizer and manure.

Miscellaneous
Includes coal, garbage, trash, oily rags and artificial trees.

Property Classification

The principal use or occupancy of the building.

Assembly
Property for the gathering of persons for civic, political, travel, religious, social, educational or recreational purposes. Includes theatres, amusement or recreation places, schools, colleges, universities, churches, social or sport clubs, libraries and museums, eating establishments and passenger terminals.

Institutional
Property for medical treatment, or care of persons suffering from illness, disease or infirmity, for the care of infants, convalescents or aged persons and for penal or corrective purposes. Includes prisons, jails, reformatories, homes for the aged, children's hospitals, hospitals and clinics.

Residential
Property in which sleeping accommodation is provided for normal residential purposes. Includes one and two family dwellings, apartments, rooming or boarding houses, hotels, motels, dormitories and mobile homes.

Business and Personal Service
Property for conducting business. Includes offices, personal services such as hairdressing and data processing or storage facilities.

Mercantile
Property used for the display and sale of merchandise. Includes food and beverage sales, textile and clothing sales, furniture and appliance sales, books and specialty sales, recreational and hobby supply sales, repair shops, laundries, vehicle and boat sales and department or variety stores.

Industrial Manufacturing Properties
Property where raw materials are transformed into new products and where the component parts of manufactured products are assembled. Includes chemical, petroleum, paint and plastic manufacturing; wood, furniture, and paper manufacturing; metal product and electrical equipment manufacturing; food processing; beverage, tobacco, soap and margarine manufacturing; textile manufacturing; footwear and wearing apparel manufacturing; and vehicle and related equipment manufacturing.

Storage Properties
Property used primarily for the storage or sheltering of goods, merchandise, products, vehicles, or animals. Includes agricultural product storage; textile, fibre and clothing storage; processed food and beverage storage; flammable liquids, gas and petroleum products storage; wood, furniture, and paper products storage; chemical, paint and plastic storage; metal products, machinery, and electrical appliance storage and vehicle storage.

Special Property and Transportation Equipment
Mainly outdoor property and transport equipment. Includes outdoor property, piers, buildings under construction or demolition, watercraft, rail transport vehicles, ground transport vehicles, aircraft and other special equipment.

Miscellaneous
Includes laboratories, farm facilities, outbuildings, utilities, glass and pottery manufacturing, mining, communications and nucleonics.

Source of Ignition

The actual equipment, device or object which brings about ignition.

Cooking Equipment
Includes stove, range, food warming appliance, deep fat fryer, broiler and portable cooking unit.

Heating Equipment
Includes central heating unit, service water heater, space heater, fireplace, chimney, flue pipe and steam or hot water pipe.

Appliances and Equipment
Includes dryer, air conditioning equipment, pressing iron and incinerator.

Smoker's Material and 'Open' Flames
Includes cigarettes, pipes, cigars and/or matches, lighters when used in conjunction with smoking. Includes matches and lighters not associated with smoker's material, candles, cutting torches, welding equipment and hot ashes.

Exposure
Includes exposure from an attached or detached structure, lumberyard, open fire, forest, grass and brush.

Miscellaneous
Includes internal combustion engine, heat treatment equipment, industrial oven, tar pot, fireworks, conveyors, commercial and industrial machinery and chemical reactions.

Digital images and photos submitted to enhance this report by fire and emergency response departments are gratefully acknowledged.

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Peace River, AB T8S 1T4
24 Hour: 1-866-618-2362

3201, Provincial Building
10320 - 99 Street
Grande Prairie, AB T8V 6J4
24 Hour: 1-866-618-2362

Northeast Region

14515 - 122 Avenue NW
Edmonton, AB T5L 2W4
24 Hour: 1-866-618-2362

407, Provincial Building
5025 - 49 Avenue
St. Paul, AB T0A 3A4
24 Hour: 1-866-618-2362

North Central Region
14515 - 122 Avenue NW
Edmonton, AB T5L 2W4
24 Hour: 1-866-618-2362

Central Region
Suite 207, Provincial Building
4920 - 51 Street
Red Deer, AB T4N 6K8
24 Hour: 1-866-618-2362

East Central Region

4910 - 52 Street, Box 500 Station M
Camrose, AB T4V 4E8
24 Hour: 1-866-618-2362

Suite 207, Provincial Building
4920 - 51 Street
Red Deer, AB T4N 6K8
24 Hour: 1-866-618-2362

South Central Region
#250, 7015 Macleod Trail SW
Calgary, AB T2H 2K6
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360 Provincial Building
200 - 5 Avenue S.
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